

## REMARKS

This is intended as a full and complete response to the Office Action dated August 13, 2002, having a shortened statutory period for response extended to expire on December 13, 2002. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-5, 7-10, 12, 20-21, 24, 26, 32, 35-37 and 40 stand rejected under 35 U.S.C. 102(b) as being anticipated by Tubel et al., U.S. Patent No. 5,662,165 (Tubel '165). Claims 6, 11, 22-23, 25, 33-34, 38-39 and 41 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Tubel '165. Tubel '165 discloses production wells having permanent downhole formation evaluation sensors. Tubel '165 also discloses a monitoring and control system having a remote central control center which communicates with a plurality of well platforms. However, Tubel '165 does not teach, show or suggest a control system having a server through which one or more remote controllers communicate with the surface control and data acquisition systems.

Applicants respectfully submit that the Examiner has applied improper hindsight in stating that it would have been obvious to connect a network database to the Internet to permit a user to gain access to information via a remote controller. Furthermore, Applicants respectfully submit that the Examiner has also applied improper hindsight in stating that it would have been obvious to for the base station to serve as a web server to permit distant users access to the data without the need for creating a dedicated network. Tubel '165 discloses a dedicated, closed-ended communication system in which a remote central control center communicates wirelessly or through telephone wires with a plurality of well platforms. Tubel '165 does not teach, show or suggest a server through which one or more remote controllers communicate with the platforms. Claims 1, 24 and 35 have been amended to clearly recite a control system having a server through which one or more remote controllers communicate with the surface control and data acquisition systems. Therefore, applicants submit that claims 1-12, 20-26, and 32-41 are patentable over Tubel '165.

Claims 13-19 and 27-31 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Tubel '165 and further in view of Patterson, U.S. Patent No. 6,089,832. As discussed above, Tubel '165 does not teach, show or suggest a control

system having a server through which one or more remote controllers communicate with the surface control and data acquisition systems. Patterson discloses a retrievable downhole pump system. These references, alone or in combination, do not teach, show or suggest a control system having a server through which one or more remote controllers communicate with the surface control and data acquisition systems. Therefore, applicants submit that claims 13-19 and 27-31 are patentable over Tubel '165 and further in view of Patterson.

Claims 42-56 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Tubel '165 and further in view of Rinaldi, U.S. Patent No. 4,676,313. As discussed above, Tubel '165 does not teach, show or suggest a control system having a server through which one or more remote controllers communicate with the surface control and data acquisition systems. Rinaldi discloses a system for determining optimum reservoir productivity. These references, alone or in combination, do not teach, show or suggest a control system having a server through which one or more remote controllers communicate with the surface control and data acquisition systems. Therefore, applicants submit that claims 42-56 are patentable over Tubel '165 and further in view of Rinaldi.

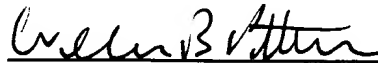
Applicants have added new claims 57-64. The Commissioner is hereby authorized to charge counsel's Deposit Account No. 20-0782/WEAT/0003/WBP, in the amount of \$208.00, for entry of new claims 57-64. Applicants believe that no new matter has been introduced and that the new claims raise no new issues. Applicants submit that new claims 57-64 are in condition for allowance.

In conclusion, the references cited by the Examiner, neither alone nor in combination, teach, show, or suggest the method or apparatus of the present invention. Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

The prior art made of record is noted. However, it is believed that the secondary references are no more pertinent to the Applicants' disclosure than the primary references cited in the office action. Therefore, it is believed that a detailed discussion

of the secondary references is not deemed necessary for a full and complete response to this office action. Accordingly, allowance of the claims is respectfully requested.

Respectfully submitted,



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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

1. (Amended) An apparatus for downhole production or injection wells, comprising:
  - a) one or more downhole production or injection wells; and
  - b) a control system comprising:
    - i) one or more surface control and data acquisition systems;
    - ii) one or more sensors disposed in communication with the surface control and data acquisition systems;
    - iii) one or more downhole devices disposed in communication with the surface control and data acquisition systems; and
    - iv) one or more remote controllers disposed in communication through a server with the surface control and data acquisition systems.
2. The apparatus of claim 1 wherein the downhole devices comprise one or more devices selected from the group of smart shunt screens, sliding sleeves, chemical injection devices, circulating valves, gas lift valves, water injection valves, smart screens chokes, diverters, flappers, safety valves, and packers.
3. The apparatus of claim 1 wherein the downhole devices are disposed in communication with one or more components of the one or more downhole production or injection wells.
4. The apparatus of claim 1 wherein the downhole devices are disposed in communication with one or more sensors of the control system.
5. The apparatus of claim 1 wherein the one or more sensors comprise one or more permanent downhole sensors.
6. The apparatus of claim 1 wherein the one or more sensors comprise one or more retrievable sensors.

7. The apparatus of claim 1 wherein the control system comprises an electric control system.
8. The apparatus of claim 1 wherein the downhole production well comprises an artificial lift system disposed in cooperation with the downhole well.
9. The apparatus of claim 8 wherein the artificial lift system includes a programmable automation control system.
10. The apparatus of claim 8 wherein the artificial lift system includes one or more surface sensors disposed to monitor operation of the artificial lift system.
11. The apparatus of claim 8 wherein the artificial lift system includes one or more sub-surface sensors disposed to monitor operation of the artificial lift system.
12. The apparatus of claim 8 wherein the control system comprises an electric control system.
13. The apparatus of claim 1, further comprising:
  - c) a retrievable pump system disposed in cooperation with the downhole production or injection well.
14. The apparatus of claim 13 wherein the retrievable pump system comprises sensors.
15. The apparatus of claim 13 wherein the retrievable pump system is deployed by a component selected from the group consisting of coil tubing, electric line, hydraulic pumping, and wire line.

16. The apparatus of claim 15 wherein the retrievable pump system is connected to one or more communication control member selected from the group of fiber optic lines, fluid pumping lines, electric lines and wireless components.

17. The apparatus of claim 13 wherein the retrievable pump system comprises one or more pumps selected from the group consisting of an electric submersible pump, a linear motor drive pump, an impeller driven pump, a progressive cavity pump, a gas lift, a rod pump and a jet pump.

18. The apparatus of claim 17 wherein the electric submersible pump is disposed in electrical connection with one or more wet connects disposed inside a production tubing of the downhole production well.

19. The apparatus of claim 17 wherein the electric submersible pump is disposed in electrical connection with an inductive coupler connected to the control system.

20. (Amended) The apparatus of claim 1 wherein the control system further comprises:

v) a communication device disposed between the [one or more remote controllers] server and the one or more surface control and data acquisition systems.

21. The apparatus of claim 20 wherein the communication device comprises one or more devices selected from the group of a telephone system, a satellite system, an internet system, and a radio system.

22. (Amended) The apparatus of claim [21] 1 wherein the remote controller comprises a computer having an internet access [and wherein the communication device comprises an internet web site server].

23. (Amended) The apparatus of claim 22 wherein the control system further comprises:

vi) a satellite system adapted to link signals between the [internet web site] server and the surface control and data acquisition system.

24. (Amended) An apparatus for downhole production or injection, comprising:

- a) one or more completed electrically controlled wells;
- b) one or more artificial lift systems incorporated in the one or more completed wells; and
- c) a control system comprising:
  - i) one or more surface control and data acquisition systems;
  - ii) one or more formation sensors disposed in communication with the surface control and data acquisition systems;
  - iii) one or more devices of the artificial lift system disposed in communication with the surface control and data acquisition systems; and
  - iv) one or more remote controllers disposed in communication through a server with the surface control and data acquisition system.

25. The apparatus of claim 24 wherein the one or more artificial lift systems comprises one or more surface sensors and one or more sub-surface sensors.

26. The apparatus of claim 24 wherein the one or more artificial lift systems comprise one or more programmable automation control systems.

27. The apparatus of claim 24, further comprising:

- c) a retrievable pump system disposed in cooperation with the electrically controlled well.

28. The apparatus of claim 27 wherein the retrievable pump system is deployed by a component selected from the group consisting of coil tubing, electric wire line, hydraulic pumping, and wire line.

29. The apparatus of claim 28 wherein the retrievable pump system is connected to one or more control lines selected from the group consisting of fiber optic lines, fluid pumping lines, and electric lines.

30. The apparatus of claim 27 wherein the retrievable pump system comprises one or more pumps selected from the group consisting of an electric submersible pump, a linear motor drive pump, an impeller driven pump, a progressive cavity pump, a gas lift, a rod pump and a jet pump.

31. The apparatus of claim 30 wherein the retrievable pump system is disposed in electrical connection with one or more wet connects disposed inside a production tubing of the downhole production well.

32. (Amended) The apparatus of claim 24, further comprising:

d) a communication device disposed between the [one or more remote controllers] server and the one or more surface control and data acquisition systems, wherein the communication device comprises one or more devices selected from the group of a telephone system, a satellite system, an internet system, and a radio system.

33. (Amended) The apparatus of claim [32] 24 wherein the remote controller comprises a computer having an internet access [and wherein the communication device comprises an internet web site server].

34. (Amended) The apparatus of claim 33 further comprising:

e) a satellite system adapted to link signals between the [internet web site] server and the one or more surface control and data acquisition systems.

35. (Amended) An apparatus for controlling and monitoring one or more production or injection wells, comprising:

a) one or more surface control and data acquisition systems;

b) one or more sensors disposed in communication with the one or more control and data acquisition systems;

c) one or more downhole devices disposed in communication with the one or more control and data acquisition systems; and

d) one or more remote controllers disposed in communication through a server with the one or more surface control and data acquisition systems.

36. (Amended) The apparatus of claim 35 further comprising:

e) a communication device disposed between the [one or more remote controllers] server and the one or more surface control and data acquisition systems.

37. (Amended) The apparatus of claim [35] 36 wherein the communication device comprises one or more devices selected from the group of a telephone system, a satellite system, an internet system, and a radio system.

38. (Amended) The apparatus of claim [37] 35 wherein the remote controller comprises a computer having an internet access [and wherein the communication device comprises an internet web site server].

39. (Amended) The apparatus of claim 38 further comprising:

f) a satellite system adapted to link signals between the [internet web site] server and the one or more surface control and data acquisition systems.

40. The apparatus of claim 35 wherein the sensors comprise one or more permanent downhole sensors.

41. The apparatus of claim 35 wherein the sensors comprise one or more retrievable downhole sensors.

42. (Amended) A method for monitoring and controlling a production or injection well or oilfield, comprising:

a) transmitting data collected by a downhole sensor module to a control and data acquisition system;

b) evaluating downhole operating conditions and optimizing downhole operating parameters utilizing an optimization software program disposed in communication with the control and data acquisition system; and

c) transmitting signals between the control and data acquisition system and a remote controller through a server utilizing a communication system, the remote controller comprising a computer having an internet access.

43. The method of claim 42, further comprising:

d) storing data collected by the downhole sensor module in a memory storage in the control and data acquisition system.

44. The method of claim 42, further comprising:

e) collecting operational data utilizing one or more surface sensors connected to the control and data acquisition system.

45. (Amended) The method of claim 42 wherein the control and data acquisition system utilizes a satellite link to transfer data via satellite to the [remote controller] server.

46. The method of claim 42 wherein the remote controller sends commands to the control and data acquisition system to modify operation of a downhole pump or to change parameters inside the control and data acquisition system.

47. The method of claim 42 wherein the control and data acquisition system provides on-site access to data and control of operation parameters.

48. The method of claim 42 wherein one or more control modules are disposed inside the wellbore to control the flow of fluids in the wellbore to optimize downhole component efficiency.

49. The method of claim 42 wherein the downhole sensors are connected to the control and data acquisition system through a hydraulic line or an electric line deployed from the surface into the wellbore.

50. (Amended) The method of claim 42 wherein the remote controller is adapted to send a command to the downhole sensor module through the server via satellite communications.

51. The method of claim 42 wherein the downhole sensor module is connected to the control and data acquisition system utilizing digital or analog communication techniques.

52. The method of claim 42 wherein the downhole sensor module is connected to the control and data acquisition system utilizing one or more communication members selected from the group of electrical cables, fiber optic cables, hydraulic devices, electromagnetic devices, earth conduction devices, and acoustic devices.

53. The method of claim 42 wherein the control and data acquisition system is adapted to control amount of chemicals delivered inside the wellbore.

54. The method of claim 42 wherein the control and data acquisition system is adapted to monitor and control steam injection into the wellbore.

55. The method of claim 42 wherein the control and data acquisition system is adapted to monitor and control formation influx.

56. The method of claim 42 wherein the control and data acquisition system is adapted to monitor and control water influx.

Please add the following new claims:

- 57. An apparatus for performing a well service operation, comprising:  
a tool body;  
a sensor for sensing a parameter relating to a function of the tool body;  
a controller for adjusting the function of the tool body;  
a data acquisition system in communication with the sensor; and  
a server in communication with the controller and the data acquisition system,  
the server in communication with a remote controller disposed in a location remote from  
the tool body.
58. The apparatus of claim 57, further comprising:  
a communication device disposed between the server and at least one of the  
controller and the data acquisition system.
59. The apparatus of claim 58 wherein the communication device comprises one or  
more devices selected from the group of a telephone system, a satellite system, an  
internet system, and a radio system.
60. The apparatus of claim 57 wherein the remote controller comprises a computer  
having an internet access.
61. The apparatus of claim 57 wherein the tool body comprises one or more devices  
selected from smart shunt screens, sliding sleeves, chemical injection devices,  
circulating valves, gas lift valves, water injection valves, smart screens chokes,  
diverters, flappers, safety valves, and packers.
62. The apparatus of claim 57 wherein the tool body comprises a retrievable pump  
system.

63. The apparatus of claim 62 wherein the retrievable pump system is connected through at least one of fiber optic lines, fluid pumping lines, electric lines and wireless components.

64. The apparatus of claim 62 wherein the retrievable pump system comprises one or more pumps selected from the group consisting of an electric submersible pump, a linear motor drive pump, an impeller driven pump, a progressive cavity pump, a gas lift, a rod pump and a jet pump.--

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